

What is claimed is:

1. A system for generating a triggering signal (10) for restraining means in a vehicle, the restraining means being provided for the event of a collision of the vehicle - head-on collision, side impact - **and** including
  - means (4) for detecting an impact which, in the event of an impact, generate a request signal (5) for the restraining means corresponding to the type of impact, and
  - means (6, 7) for detecting a rotational motion of the vehicle about at least one vehicle axis - longitudinal axis (x) and/or transverse axis (y) - which generate a corresponding status signal (7, 8), characterized by a circuit (11, 21, 31) for generating a triggering signal (10), the circuit combining the request signal (5) and the status signal (7, 8) so that the information about the possible occurrence or the existence of a rotational motion is taken into account in the decision about triggering the restraining means.
2. The system as recited in Claim 1, wherein the circuit (11, 21, 31) includes at least one hold element (13), the hold element (13) determining a period of time  $t_{stop}$  in which no triggering signal (10) may be generated when a critical rotational motion has been recognized.
3. The system as recited in Claim 2, wherein means (7) are provided for detecting the instantaneous angular position ( $\alpha_x$  and/or  $\alpha_y$ ), the existence of a critical rotational motion being assumed when the instantaneous angular position ( $\alpha_x$  and/or  $\alpha_y$ ) exceeds a first defined threshold value ( $\alpha_{x \min 1}$  and/or  $\alpha_{y \min 1}$ ).
4. The system as recited in one of Claims 2 or 3, wherein means (6) are provided for predicting a rollover, the

existence of a critical rotational motion being assumed when a rollover is predicted.

5. The system as recited in Claims 3 and 4, wherein means are provided for detecting and analyzing the vehicle's instantaneous angular velocity ( $\omega_x$  and/or  $\omega_y$ ), a rollover being predicted when a threshold value is exceeded which is given by  $f(\alpha_x, \omega_x)$  or  $f(\alpha_y, \omega_y)$ .

6. The system as recited in one of Claims 2 through 5, wherein the hold element (131) determines the period of time  $t_{stop}$  as infinite so that the restraining means are blocked permanently.

7. The system as recited in one of Claims 2 through 5, wherein the hold element (133, 134) determines the period of time  $t_{stop}$  in such a way that the restraining means are blocked at least until the vehicle has come to rest.

8. The system as recited in Claim 7, wherein means are provided for detecting and analyzing the linear acceleration ( $a_x$ ,  $a_y$  and/or  $a_z$ ) to determine the time when the vehicle has come to rest.

9. A method for triggering restraining means in a vehicle, the restraining means being provided for the event of a collision of the vehicle - head-on collision, side impact -, - in which information about a possible collision of the vehicle is collected and analyzed, and - in which information about a possible rotational motion of the vehicle about at least one vehicle axis - longitudinal axis (x) and/or transverse axis (y) - is collected and analyzed,

wherein the information about the possible occurrence or the existence of a rotational motion of the vehicle is taken into

account in the decision about triggering the restraining means in the event of an impact.

10. The method as recited in Claim 9, wherein the information about the possible occurrence or the existence of a rotational motion of the vehicle is analyzed to recognize a critical rotational motion and, in the event of an impact, the restraining means are blocked for a period of time  $t_{stop}$  when a critical rotational motion has been recognized.

11. The method as recited in Claim 10, wherein the vehicle's instantaneous angular position ( $\alpha_x$  and/or  $\alpha_y$ ) is detected and analyzed and a vehicle motion is recognized as being a critical rotational motion when the instantaneous angular position ( $\alpha_x$  and/or  $\alpha_y$ ) exceeds a first defined threshold value ( $\alpha_{x \min 1}$  and/or  $\alpha_{y \ min 1}$ ).

12. The method as recited in Claim 11, wherein the vehicle's instantaneous angular velocity ( $\omega_x$  and/or  $\omega_y$ ) is detected and analyzed and a rollover is predicted and thus the existence of a critical rotational motion is assumed when a threshold value is exceeded which is given by  $f(\alpha_x, \omega_x)$  or  $f(\alpha_y, \omega_y)$ .

13. The method as recited in one of Claims 10 through 12, wherein, in the event of an impact, the restraining means are permanently ( $t_{stop} = \infty$ ) blocked when a critical rotational motion has been recognized.

14. The method as recited in one of Claims 10 through 12, wherein, in the event of an impact, the restraining means are blocked at least until the vehicle has come to rest when a critical rotational motion has been recognized.

15. The method as recited in one of Claims 12 or 13 and Claim 15, wherein it is assumed that the vehicle has come to rest when

the instantaneous angular position ( $\alpha_x$  and/or  $\alpha_y$ ) falls below a third defined threshold value ( $\alpha_{x \text{ min3}}$  and/or  $\alpha_{y \text{ min3}}$ ).

16. The method as recited in one of Claims 11 or 12 and one of Claims 15 or 16,

wherein the linear acceleration ( $a_x$ ,  $a_y$  and/or  $a_z$ ) of the vehicle is detected and it is assumed that the vehicle has come to rest when a function of the instantaneous linear acceleration  $f(a_x, a_y \text{ and/or } a_z)$  falls below a defined threshold value  $a_{\text{min}}$ .